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Article

The relationship between firm life cycle and firm strategies: A systematic review and future direction

Mohammad Talha[1], Nguyen-Quynh-Nhu Ngo[2,*], Nguyen-Nhu-Ngoc Ngo[3], Tran-Le-Anh Nguyen[4], Minh-Dang Nguyen[4], Gia-Duong Nguyen[2]

[1] Department of Accounting and Finance, Prince Mohammad Bin Fahd University, Al Khobar 31952, Kingdom of Saudi Arabia
[2] Faculty of Finance and Banking, Ton Duc Thang University, Ho Chi Minh City, Vietnam
[3] Western Sydney University, Ho Chi Minh City, Vietnam
[4] Faculty of Business Administration, Ton Duc Thang University, Ho Chi Minh City, Vietnam
*** Corresponding author:** Nguyen-Quynh-Nhu Ngo, ngonguyenquynhnhu@tdtu.edu.vn

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Abstract: The business life cycle is examined through a comprehensive literature review in this academic study. Our initial approach involves searching for relevant articles on firm life cycle and strategy using the Web of Science and Scopus databases. We conduct bibliometric analyses to identify key contributors and recurring keywords. Subsequently, we select twenty-seven research papers to explore the Theory Development, Characteristics, Context, and Methodology (TCCM) framework for firm life cycle and strategy. Our analysis summarizes corresponding business strategies for each stage, including the use of Initial Management Control Systems (MCS) in the introduction phase. As companies grow, a high inventory-to-sales ratio may hinder effectiveness, but it proves beneficial in the growth and revival stages. Mature companies excel in green process innovation and engage more in Corporate Social Responsibility (CSR) activities. In the decline stage, firms use cost efficiencies, asset retrenchment, and core activity focus for recovery, signaling commitment to a successful turnaround. However, there is a research gap in exploring appropriate global strategies for various life cycle stages, providing an opportunity for additional articles to thoroughly investigate this relationship and assess multinational enterprises' success trajectories throughout their life cycles.

Keywords: firm life cycle; firm strategy; bibliometric analysis; global strategy; systematic literature review

1. Introduction

Undoubtedly, the life cycle of businesses holds significant importance for society and individuals globally in their daily activities (Ngo et al., 2023). Investigating the corporate life cycle is essential for understanding where a company stands, planning for the future, managing risks, allocating resources effectively, evaluating performance, adapting to change, and attracting investment (Tariq et al., 2020). The term "firm life cycle" refers to the distinct phases a business undergoes, from establishment to eventual deterioration or cessation (Chen et al., 2021). The theory posits that companies experience a predictable sequence of developmental stages, leading to significant changes in strategies and organizational structures (van Knippenberg et al., 2020). Numerous research studies propose distinct life-cycle models employing metrics such as organizational condition, leadership approach, strategic direction, developmental areas, firm age, dividend distribution policy, and cash flow patterns to classify each phase (Adizes, 1979; Dickinson, 2011; Greiner, 1997; Miller and Friesen, 1983). While the number of stages varies, ranging from three to ten in different models, they demonstrate similar developmental patterns. Developmental models that encompass multiple stages typically delineate broad phases into distinct durations. Meanwhile, models with fewer stages consolidate two or more to achieve conciseness. While anecdotal papers and models are thought-provoking, they often lack a solid empirical foundation derived from systematic reviews.

The firm life cycle refers to the different stages that a company goes through, including introduction, growth, maturity, shakeout, and decline, which have implications for various aspects of the company, such as cash policy (Shahzad, Lu, and Fareed, 2019), stock prices (Dickinson et al., 2018), return predictability (Gupta et al., 2022), and financial performance (Oskouei and Sureshjani 2021). In terms of cash policy, it has been found that companies tend to have a larger cash balance during the mature and shakeout stages, while the introduction and growth stages do not show a clear pattern (Shahzad et al., 2019). Stock prices also vary based on the firm life cycle stage, with introduction and decline stage companies exhibiting lower cumulative abnormal returns around earnings announcements compared to companies in other stages (Dickinson et al., 2018). Furthermore, the firm life cycle has been shown to have a significant impact on return predictability, with mature firms outperforming introduction firms in hedge portfolio strategies (Gupta et al., 2022). In terms of financial performance, there is a positive relationship between firm growth, maturity, and shakeout stages and financial performance, while the introductory and decline stages have an insignificant relationship (Oskouei and Sureshjani, 2021). Overall, the firm life cycle plays a crucial role in shaping various aspects of a company's operations and performance. However, there remains a lack of consensus in the theory of firm life cycle regarding terminology and classification of company stages. Some theories categorize companies into young, mature, and old stages, while others divide them into Introduction, Growth, Mature, or even five stages including Introduction, Growth, Mature, Shake-out, and Decline.

Firm strategy refers to the course of action that firms take to achieve their objectives (Hofer 1980). It consists of four types: functional strategy, corporate strategy, strategic business unit and global strategy (Chen et al. 2021; Rutherford et al., 2018). Functional strategy refers to the specific courses of action taken within each functional area of a company to support the overall business strategy, such as marketing, finance, operations, human resources, and research and development. Functional strategies are designed to align the activities and resources within each department with the broader organizational goals and objectives (Chen et al., 2021). Corporate strategy pertains to the overall scope and direction of a company and involves decisions regarding which industries or markets to compete in and how to allocate resources among different business units (Rutherford et al., 2018). Strategic Business Unit strategy involves identifying market opportunities, defining competitive advantages, and developing action plans to achieve business unit objectives. This type of strategy is tailored to the unique characteristics and challenges of each business unit and may involve decisions related to product development, pricing, distribution, and market positioning (Li et al., 2019). Global strategy requires careful consideration of factors such as political and economic conditions, cultural differences, legal and regulatory requirements, and competitive dynamics in various regions of the world. Companies pursuing a global strategy aim to leverage their resources and capabilities to gain a competitive advantage on a global scale while mitigating risks associated with operating in diverse international environments (Li et al., 2019).

Despite the escalating scholarly and practical interest in this realm, consensus on systematically reviewing the interconnection between firm life cycles and strategies, alongside the theoretical foundations, remains elusive (Hosseinzadeh Shahri and Nematollahi Sarvestani, 2020). Importantly, there is a notable dearth of comprehensive scholarly publications addressing this topic or delineating optimal strategy types for specific business life cycles. Previous studies have often treated them as separate topics, overlooking potential synergies and interdependencies (Bozeman 2010; Chen et al. 2021; Lazonick and O'Sullivan 2000). This study endeavors to fill this gap by synthesizing insights from firm life cycle literature with strategic management theories, thereby providing a more holistic understanding of how organizational life cycle dynamics shape strategic decision-making processes. To achieve this, two research objectives guide the investigation. Research objective 1 explores the historical progression of academic research on the correlation between firm life cycles and strategic approaches. Research objective 2 investigates primary topics and concerns related to stages and strategies of firms as identified in academic work.

The present study aims to achieve its objectives by delineating the domains of corporate strategy and the operational phases of the corporate business cycle through surveying existing literature on the topic and presents a classification scheme. The study emphasizes principal issues explored in the available literature, acknowledged as significant in academia. Through a rigorous examination of identified topics, novel research inquiries with potential to enhance future investigations are proposed. The chosen methodology is a systematic literature review (SLR), employing information scientific research and textual analysis techniques, including schema and netting analysis. This study involves a thorough analysis of extant academic work, conducted through a systematic literature review to provide scholars and professionals with a methodical and classified perspective of existing literature.

Upon reviewing the literature, it is evident that a significant number of systematic reviews and meta-analyses have explored the consequences of a corporation's life cycle on its strategy. Works by Bozeman (2010), Dickinson (2011), Lee et al. (2021), Miller and Friesen (1984), Mitsakis (2014) and Sandino (2007) contribute to this body of research. However, the mentioned reviews heavily rely on results from cross-sectional investigations. A systematic review study is widely considered a more reliable research method, allowing for the analysis of correlations over an extended period, thus providing valuable insights into observed effects. The VOS Viewer software is employed to assist in the preparation, implementation, and synthesis of a systematic literature review (SLR). Despite the growing number of systematic review studies on firm strategies, a comprehensive assessment of the connection between firm strategies and life cycles remains unexplored, highlighting a gap in current understanding.

The remainder of the paper is organized as follows. Section 2 provides an overview of the theoretical foundations of our research. Section 3 offers an analytical view of the methodology of our systematic literature review (SLR). Section 4 thoroughly presents the results of the review in terms of descriptive statistics of the revised body of knowledge and provides an in-depth qualitative description of the findings. Section 5 discusses the results in the light of new research avenues and emerging strategies with respect to each firm life cycle. Section 6 offers concluding remarks while acknowledging the theoretical contribution and managerial implications of our research.

2. The theoretical framework

2.1. Firm life cycle theory

The Birth Phase. This is the phase during which a nascent enterprise strives to establish itself as a sustainable entity. The phenomenon is distinguished by significant exertion and was suggested by Quinn and Cameron (1983) and Greiner (1997), including "Stage One," "Creativity Stage," "Birth" phase, and "Entrepreneurial Stage." Salient characteristics that set apart enterprises in this stage are their nascent age, proprietor-driven management, and uncomplicated, unstructured organizational frameworks (Yazdanfar and Öhman 2014). In the Birth Phase, companies endeavor to develop a feasible product-market strategy for the first time (Rutherford et al., 2018). Distinctive competencies are generated through the modification of products and services, primarily through a process of trial and error (Mitsakis, 2014). Typically, this entails significant and regular advancements in products or services, as well as a deliberate focus on implementing a niche strategy. Given the limited size and lack of an established reputation of the firm, it is advisable to refrain from engaging in direct confrontation with its more dominant competitors (Ngo et al., 2022). The company employs a strategy of identifying untapped market opportunities and safeguarding them through the implementation of significant innovations.

The Growth Phase. The occurrence of this period was anticipated subsequent to the development of the company's distinctive capabilities and the attainment of some preliminary success in the product market (Hasan and Cheung, 2018). The feature in question pertains to the developmental phase commonly referred to as the "Rapid Growth Stage" or the "Go-Go Organization Stage," as identified by Adizes (1979), and the "Second Stage," as outlined by Lyden (1975). The focus is on attaining swift sales expansion and accumulating assets with the aim of realizing benefits associated with increased magnitude. In general, an organizational framework that is function-based is implemented, wherein certain levels of decision-making power are assigned to intermediate managers, and formal protocols are instituted (Chen et al., 2022). During the growth phase, the primary focus is on expansion and initial diversification, which includes the expansion of product lines (Hosseinzadeh Shahri and Nematollahi Sarvestani, 2020). However, this typically leads to a more comprehensive assortment of goods or services for a particular market, as opposed to establishing a presence in divergent markets. There is a current focus on gradually adapting products to suit emerging markets, with less emphasis placed on significant or radical product advancements (Hasan and Cheung, 2018). The process of market segmentation assumes significance as managers endeavor to discern distinct subcategories of customers and make minor adjustments to their products or services to cater to their specific needs. In other words, the utilization of a niche strategy is frequently disregarded as businesses shift their focus toward larger markets (Xia et al., 2024). Given the larger size and greater strength of firms in the growth phase, their efforts to secure a more favorable environment are likely to involve engaging in lobbying activities with various levels of government (Hosseinzadeh Shahri and Nematollahi Sarvestani, 2020). The strategic approach to diversification may involve the periodic procurement of subsidiaries as a final component. Typically, this strategy involves the acquisition of relatively smaller rival firms within the same sector, as opposed to expanding into novel industries. The assimilated companies are integrated into the functionally-oriented organizational structure instead of being maintained as autonomous units. The implementation of these strategies evidently enhances the complexity of the circumstances that the organization is confronted with.

The Maturity Phase. It was anticipated that maturity would ensue following an increase in sales levels leading to a state of equilibrium, a reduction in innovation, and the adoption of a more bureaucratic organizational structure. The objective is to achieve streamlined and effective operation. The "Formalization and Control Stage," or "Stage 2," as identified by Quinn and Cameron (1983) and Greiner (1997), is indicative of the maturity phase. Adizes (1979) proposed three stages of organizational development: the direction stage, the stable organization stage, and the maturity stage. During the maturity phase, companies that have reached maturity tend to adopt a more cautious approach (Ngo et al., 2023). The organization exhibits a lack of significant innovation, limited engagement in diversification or acquisition endeavors, and a dearth of incremental modifications to its products or services (Eiriz, Faria, and Barbosa 2013). Undoubtedly, at this particular stage, there is a proclivity to emulate the competition by observing their innovative practices and subsequently replicating them if deemed essential. During the growth phase, markets tend to be narrower in scope compared to other phases, resulting in fewer firms adopting a niche strategy (Hasan and Cheung 2018). Efforts are being made with a dedication to establishing a stable and negotiated environment through the implementation of price-fixing mechanisms and lobbying activities with the government (Li et al., 2018). The objective seems to be to enhance the efficacy and financial viability of the business activities. This is accomplished by circumventing expensive alterations in product lines, securing advantageous pricing through collusion, and advocating for impediments to international competition. The focus in traditional markets is on cost-effective production and maintaining sales volume through a consistent and limited product line. As anticipated, established companies exhibit a more relaxed tempo compared to those in the demanding stage of expansion (Lee et al., 2021).

The Decline Phase. The literature commonly reflected a final stage that appeared distinct from the aforementioned stages. This observation reveals the gradual onset of stagnation as markets experience a reduction in activity, leading to a subsequent decline in firms (Hasan and Cheung, 2018). The decline in profitability can be attributed to external challenges and a dearth of innovative practices (Li et al., 2018). The decline stage can be inferred from the deceleration stage, the fourth stage proposed by Kimberly (1979), and Adizes (1979) introduced the initial phase of organizing. Although the majority of our findings align with our initial hypotheses and provide a logical justification for numerous life cycle modifications, they lack sufficient indication of coherence and thematic interconnectedness between contextual, fundamental, decision-making, and strategic attributes of distinct characteristics of the five stages (Hosseinzadeh Shahri and Nematollahi Sarvestani, 2020). During the decline phase, companies that have reached this stage tend to respond to market challenges by exhibiting a state of inactivity. In an effort to preserve resources depleted due to inadequate performance, they refrain from pursuing innovation in their products or services (Wang et al., 2020). When product lines become outdated, it becomes necessary to reduce prices to sustain sales. Organizations appear to be trapped in a cycle of negative feedback. The lackluster performance of their sales can be attributed to the unattractive nature of their product offerings. This phenomenon leads to a decrease in profits and a scarcity of financial resources, thereby rendering significant product line changes seemingly cost-prohibitive. Product lines have become increasingly obsolete (Liang et al., 2018). Often, there is a prevailing siege mentality and an orientation that relies on intuition rather than planning. The delegation of tasks by managers is inadequate, and there is a dearth of participatory management practices (Bakarich et al., 2021). Hence, it is imperative for upper management to allocate a significant portion of their schedule toward managing unforeseen emergencies. They are unable to allocate sufficient time for extensive analysis. The individuals in question use a decision-making process that relies heavily on short-term time horizons, limited consideration of dimensions, and a lack of effort to ensure decision complementarity.

The Revival Phase. This is commonly recognized as a stage characterized by the broadening of commodity market scope through heterogeneity and expansion (Hosseinzadeh Shahri and Nematollahi Sarvestani, 2020). The implementation of dimensionalized measures structures by firms is observed as a response to the increasingly intricate and diverse markets (Wang et al., 2020). Similarly, there is a focus on implementing advanced control and planning systems. The aforementioned phase pertains to the third stage, also known as the “Elaboration of Structure Stage” as described by Quinn and Cameron (1983), and the “Coordination Stage” as outlined by Greiner (1997). It represents the final phase in the lifecycle of many extensively diversified corporations. During the Revival Phase, significant modifications are observed in the product-market strategies that are being implemented (Felicia et al., 2018). The current period has witnessed a greater number of significant and insignificant innovations in product lines and services compared to any other period (van Knippenberg et al., 2020). Furthermore, companies tend to expand their reach by venturing into novel markets as they increase their diversification. Diversification can be achieved by means of procuring companies operating in diverse sectors. The process of market segmentation involves the identification and differentiation of distinct segments within the market environment, which enables the firm to tailor its product lines to meet the specific needs and preferences of each segment (Li et al., 2018). In essence, organizations experience substantial diversification in their product portfolios and market segments. The broadening of the range of products and markets served is a consequence of their growth, which is not limited to mere size increases (Hasan and Cheung, 2018). The transition from a singular market to multiple markets is observed as a means to counteract the stagnation that typically characterizes the maturity phase. The augmentation of firms in terms of their size, market power, and visibility, along with their intermittent acquisition strategy, prompts certain firms in the revival phase to engage in governmental lobbying (Jiang et al., 2021). This practice is implemented in order to prevent any hindrance to expansion strategies, secure safeguarding against imported goods, and evade any potential antitrust litigations. Across the different phases of development including birth, growth, maturation, decline, and resurgence, there is a discernible augmentation in structural intricacy. This may be attributed to the expansion and diversification of firms, as well as the heightened the intricacy and antagonism of the encompassing milieu. The complexity of managerial techniques may increase, potentially due to similar underlying factors. However, during the decline phase, the adoption of uncomplicated structural and decision-making strategies is observed in response to a difficult situation. Once more, it appears that the anticipations derived from the literature pertaining to the life cycle are fundamentally validated.

2.2. Firm strategy theory

2.2.1. Corporate strategy

Corporate strategy pertains to the overarching, comprehensive approach or shared plan that guides a company toward achieving its fundamental, enduring objectives across the entirety of its operations (Rutherford et al., 2018). At this stage, the strategic approach must possess the capability to provide responses to the following inquiries: What are the potential activities that can optimize a company’s profitability, facilitate its survival, and foster its growth? There exists a multitude of corporate-level strategies, each with distinct appellations, which may be classified and designated by individual authors according to their own unique framework. Fred R. David has proposed a classification of corporate strategy that encompasses 14 distinct categories. The subsequent strategic alternatives that firms can consider include ahead integration, retrogression, horizontal integration, market share, market growth, product creation, convergence diversification, connection diversifying activities, horizontal diversifying activities, a joint-venture, restructuring, reducing administration, liquidation, and reorganization (van Knippenberg et al., 2020). Each classification of these tactics encompasses a multitude of discrete actions. An example of a market penetration strategy involves augmenting the sales force, increasing advertising expenditures, executing promotional initiatives, and expanding market share within a specific geographic location (Chen et al., 2021).

2.2.2. Strategic Business Unit

The domain of business unit strategy pertains to the methods of achieving competitive advantage in particular markets. The formulation of business strategy encompasses the selection of a competitive approach by an organization, its market positioning to attain the attainment of a competitive advantage and the implementation of diverse positioning tactics that are applicable within the unique context of each industry (Yu et al., 2018). Michael Porter has proposed three primary competitive strategies, namely the low-cost strategy, differentiation strategy, and concentration strategy (Peteraf 1993).

2.2.3. Functional strategy

Functional strategy, also referred to as operational strategy pertains to the strategic planning of operational divisions such as manufacturing, advertising, finance, discovery and development, among others (Lyden, 1975). Implementing these strategies facilitates the enhancement and achievement of operational efficiency within the organization, thereby supporting the effective execution of business and corporate strategies (Liang et al., 2018). For the purpose of improving the competitive advantage and efficiency in general of the organization and aligning with the demands of customers and the market, it is imperative to establish a set of strategic initiatives aimed at enhancing the operational efficiency of the functional departments (Lee et al., 2021).

2.2.4. Global strategy

For centuries, it was customary to partition a corporation's strategic framework into three tiers: The three key concepts under consideration are corporate strategy, strategic business unit, and functional strategy (Haiyan et al., 2021). In light of the contemporary phenomenon of globalization, numerous corporations expeditiously expand their operations beyond domestic boundaries, thereby engendering discourse surrounding a fourth tier of strategic planning, namely, Global strategy (Yu et al., 2018). In order to effectively enter and thrive within the global marketplace, corporations may employ a set of fundamental strategies, which include the following four approaches: The four primary strategies for businesses operating in multiple countries are Multinational strategy; International strategy; Global strategy; Transnational Strategy.

3. Methodology

3.1. Methods

The investigators of this research use the systematic review of the literature (SLR) methodology, a research approach commonly utilized in the domains of science, research, and data analysis. SLR aims to carefully and comprehensively synthesize, evaluate, and analyze published research on a particular research issue. The SLR process includes the following steps.

- Step 1: For research purposes, based on existing research, develops specific research questions.
- Step 2: Define criteria to select suitable studies and exclude unrelated studies.
- Step 3: Search data sources such as academic databases, articles, books, and other relevant documents. Then, appropriate studies were selected based on the criteria.
- Step 4: Utilize evaluation criteria such as research methods, target sample, and data analysis to determine the quality and reliability of the selected studies.
- Step 5: Extract important information from selected studies and synthesize them.
- Step 6: Analyze and evaluate the extracted data to address the research topic.
- Step 7: Report the SLR process results in a scientific paper, including analysis, evaluation, and comments. The SLR method helps ensure integrity and objectivity in understanding and analyzing studies relevant to a particular research area (Kitchenham et al., 2008). Furthermore, by aggregating information

from multiple studies, SLR helps you identify further research directions or knowledge gaps that you can focus on Levy and Ellis (2006).

3.2. The sampling processes

Powered by Thomson Reuters, Elsevier B.V.'s Web of Science Core™ Collection and Scopus® indexing information systems, used as the primary dataset, and obtained from access through the ISI Web of Knowledge™ portal. The aforementioned bibliography was chosen due to their ability to offer interfaces that enable the execution of concurrent searches across multiple sources utilizing a shared set of search terms. The current investigation has identified scholarly literature ranging from 1980 to March 2023, obtained from reputable databases including the Science Citation Index Expanded, the Social Sciences Citation Index, and the Emerging Sources Citation Index. The more recent index incorporates research from reputable publishers, including but not limited to Elsevier, Emerald, SAGE, Springer, Taylor and Francis, and Wiley. The indexes in question serve as a means of computing the Journal Citation Report (JCR) indicator, a frequently employed metric for evaluating publications through a citation database, as well as the SCImago Journal Rank (SJR) is a metric utilized by SCImago that is based on the Google PageRankTM algorithm, a well-established and widely recognized algorithm. The chosen publications were limited to those classified as either "article" or "review" due to their prior completion of a stringent evaluation by experts in the field is conducted before the dissemination of the research findings. Furthermore, these literary works contain all the necessary metadata required for conducting bibliometric analysis, including authorship, innuendos, citation count, and publication date (Ferreira Mello et al., 2013). The exclusion of written works was based on the quality standard as established by Budgen et al. (2007) and Kitchenham et al. (2008). Only those works that met the aforementioned criteria were considered.

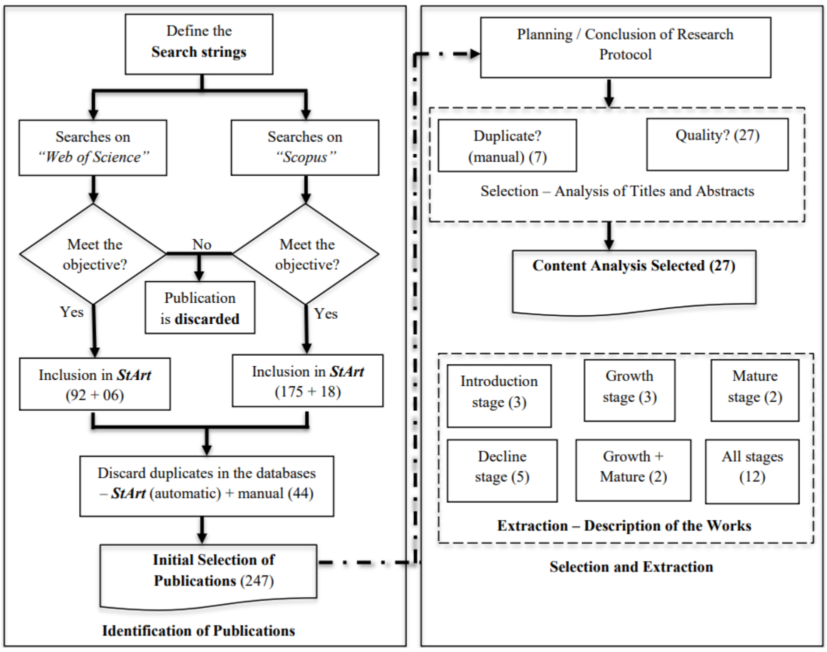

Figure 1. Process to identify and select the sample.

Source: own research.

Figure 1 illustrates the schematic representation of the process involved in the identification and selection of the samples. In identification of the publication phase, searches were performed on databases that are indexed in Web of Science and Scopus, employing initial definitions to formulate the search queries. **Figure 1** depicts the conclusion of the planning phase, with the initial stages of the selection and extraction phases being illustrated. Following the conclusion of the research protocol, a methodology was devised for the purpose of segregating the sample. The study entailed the elimination of publications that failed to satisfy the established standards of quality, including but not limited to magazine articles, corporate publications, and those that lacked an English translation. Subsequently, the extant literature was categorized according to its pertinence to the organizational strategy during distinct phases of the company's developmental trajectory. The outcomes of the inquiry carried out utilizing the improved search phrases were subsequently integrated into the information system of the StArt appliance, which operates throughout the Web of Science and Scopus information systems. The StArt software was utilized for automating the procedure of eliminating redundant employment in the Scopus collection. This was achieved by manipulating out articles that already appeared in the Web of Science database. The aforementioned procedure entailed verifying the categorization of resources as either articles or reviews across the indicated archives. Following the selection procedure, an in-depth examination was carried out on the compilation of articles that were originally previously organized in chronological order based on their respective titles, with the objective of eliminating any further occurrences of redundancy.

Table 1. Origin of the sample publications (6th March 2023).

	"Web of Science Core™"	**"Scopus®"**	**Common to the databases**	**Total**
Search string	firm life cycle, corporate life cycle, introduction stage, introduction phase, startup stage, growth stage, growth phase, mature stage, mature phase, decline stage, decline phase, shake-out stage, shake-out phase	firm life cycle, corporate life cycle, introduction stage, introduction phase, startup stage, growth stage, growth phase, mature stage, mature phase, decline stage, decline phase, shake-out stage, shake-out phase		
Filters	Article / Review	Article/Review		
Articles	81	175	72	220
Reviews	13	18	8	27
Total	94	193	80	247

Source: own research.

Table 1 displays the search terms employed to query the recorded Web of Science Core^{TM} Collection via the ISI Web of Knowledge^{TM} portal (by Thomson Reuters), which yielded a total of 134 publications (117 articles and 17 reviews). The search terms utilized to explore the Scopus® database by Elsevier B.V. are also presented, resulting in 233 publications (211 articles and 22 reviews). It is noteworthy to acknowledge that the aforementioned statistics encompass publications that satisfy the search parameters of the corresponding databases but are not relevant to the aim of this inquiry. As a result, a final selection of 247 publications was considered appropriate, consisting of 220 articles and 27 reviews.

The next step involved the review of the 247 initial articles, adhering to both exclusion and inclusion criteria (Ardito et al., 2015; Capolupo et al., 2023; Cillo et al., 2019; Massa et al., 2023; Savino et al., 2017). Articles duplicating titles and abstracts were eliminated (7 papers), resulting in 240 remaining papers. The selection process utilized formal decision criteria to refine the initial list and relied on authors' comprehension of the literature through textual analysis (Savino et al., 2017). This literature review aimed to pinpoint areas of firm strategies within firm life cycles and propose avenues for future research on search and recombination solutions implemented by firms to inform decision-making. Consequently, only studies focusing on firm strategy and firm life cycle were included. The research team scrutinized titles, abstracts, and keywords, leading to the exclusion of 213 publications for the following reasons:

- Papers solely addressing firm strategy were excluded (155 papers).
- Papers discussing the life cycle of animals, economy, or human were excluded (31 papers).
- The remaining 27 articles constituted the final selection.

Subsequently, the remaining 27 articles were assessed based on their perspective, adhering to the inclusion criteria:

- Firm strategy across all firm stages (12 papers).
- Firm strategy within one or two specific stages (15 papers).

3.3. Research methods

The study employed bibliometric analysis as proposed by Linus Ikpaahindi (1985), and Duriau et al. (2007) proposed content analysis approach to determine the extent regarding scholarly literature regarding corporate strategy and the life cycles of firms. The objective was to identify prevalent trends and primary themes addressed in the literature. The aforementioned analyses are mutually reinforcing, as the former endeavors to discern literary patterns through the lens of publication dates, while the latter encompasses a comprehensive overview of the principal themes, methodologies, and definitions pertaining to the subject matter (Ferreira Mello et al., 2013). The subsequent section delineates the potential applications of these analytical procedures. The purpose of bibliometric analysis is to address inquiries pertaining to the progression of literature concerning the life cycle of firms and their strategies throughout the years.

Science of Science (Sci2) version 1.3 has been designed with a particular focus on generating networks that consist of both citations and co-occurring keywords. The Sci2 tool comprises a set of modular tools that are specifically intended to streamline the analysis of scientific communications. This technology facilitates the ability of researchers to perform analyses related to time, location, subject matter, and network connecting. The research data sets were obtained via a carefully chosen sample and extracted in "pure text" form from the web of Science Core™ Collection and Scopus® database management systems. The resulting data sets were then imported to the Sci2 tool. The sources underwent analysis with the aim to determine the research findings that had the most significant influence. The current analysis is founded on the premise that researchers have a tendency to cite sources that they consider to be crucial for the progression of the study. Consequently, it can be inferred that the documents that are cited most frequently hold a greater sway than those that are cited less frequently (Ramos-Rodrígue and Ruíz-Navarro 2004). The development of VOSviewer, a bibliometric network visualization tool, has been undertaken over a span of several years. This tool provides fundamental features for the visualization of bibliometric networks in a user-friendly manner. CitNetExplorer is a recently developed specialized tool designed for the purpose of visualizing and analyzing citation networks of publications. Furthermore, the present study utilizes content analysis as a means to address research question RQ2. The present study conducted a content analysis to examine the works and subsequently conducted a comparative analysis of their research findings, as presented in Appendix.

4. Results and discussion

4.1. Descriptive analysis

Within this particular segment, a thorough analysis is conducted on the quantitative data related to time spans, citations, publications, researchers, and other relevant information pertaining to the sample periodicals. The use of bibliometric analysis is employed to illustrate the correlations between the researched articles and other publications. Careful attention is paid to ensure the accuracy of the investigation.

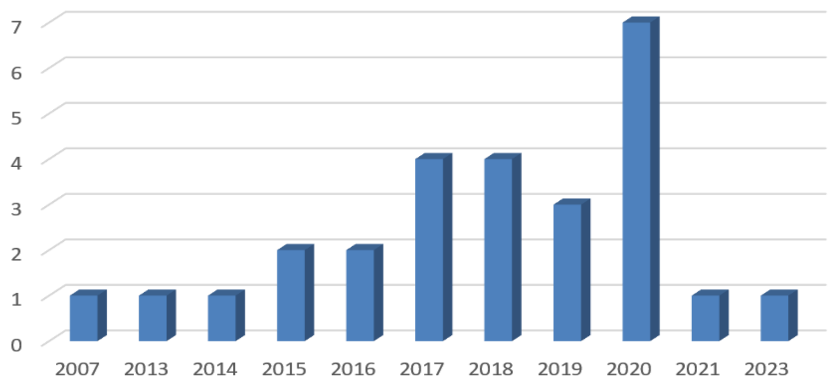

Figure 2. Number of articles per year.

Publishing/Year/Periodical. As can be seen in **Figure 2,** there are entire 27 publications from 2007 to 2023, particularly up to 2020 seven research paper (25.9%) was found, which indicates the increasing interests in scientific community. Although the concept of firm strategy was initially mentioned in research of (Peteraf, 1993), detailed research on firm strategy for each stage of company development such as inception, growth, maturity, decline, and shake-out was only addressed from 2007 in research of (Sandino, 2007). Previous studies have discussed methods of determining a company's stage, such as Dickinson (2011), who classified stages of the company as Introduction, Growth, Maturity, Decline, and Shake-out based on operating cash flows, investment cash flows, and financing cash flows. However, subsequent studies have introduced various methods to determine a company's stage, based on longevity, revenue growth, profitability, etc. Nonetheless, (Sandino, 2007) applied findings from previous studies to investigate how companies tend to manage their systems during respective stages. The empirical articles encompass a variety of stages: 12 papers examine strategies adopted by companies across all stages, 5 papers delve into strategies during the decline stage, 7 papers explore strategies during the growth and maturity stages, and 3 papers delineate strategies adopted by companies during the introduction stage.

Interestingly, examining the journals in which the sample articles were published reveals how widespread this topic is in the innovation management literature. Indeed, these articles appear in 22 different journals, mostly top-quality outlets such as Academy of Management Journal, Accounting & Economics, Advances in Economics, Business and Management Research, Business Strategy and the Environment–WILEY, Cogent Economics & Finance, European Business Review, Future Business Journal, Group and Organization Management, Innovation: Management and, Policy and Practice, International Entrepreneurship and Management Journal, International Journal of Innovation Management, Journal of Business Research, Journal of Change Management, Journal of Contemporary, Journal of Global Information Management, Journal of Management Studies, Journal of Manufacturing Technology Management, Journal of Risk and Financial Management, Journal of Strategy and Management, Management and Organization Review, Organization Science, Pacific-Basin Finance Journal, Review of Quantitative Finance and Accounting, Social Sciences & Humanities, Sustainability, The Accounting Review, The Journal of Risk Finance.

Frequency of the citations during researched periods. The recurrence rate of the works in the dataset is shown in the **Figure 3**, in which the frequency of citations of a paper is equivalent to the magnitude of the node. More clearly, several works of Peteraf (1993), Lazonick and O'Sullivan (2000), Hobday (2000), Jawahar and McLaughlin (2001), Aragón-Correa and Sharma (2003), Peng et al.(2008) are cited in the researched period with the highest frequency.

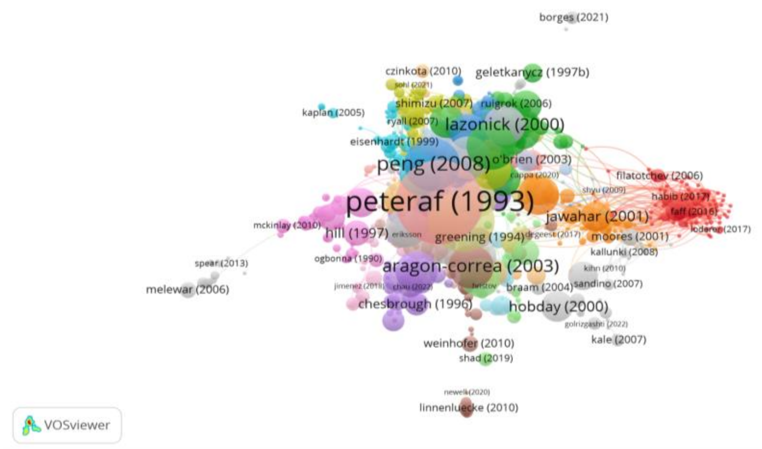

Figure 3. Frequency of citations of the works.

Source: own research.

Centrality of the publications. A graph was constructed by extracting citations from the sample works, endowing its nodes with an advanced level of connectivity. Node magnitude reflects the entire centrality degree, while the arrows indicate the information flow between the nodes through direct reference, beginning with the earliest publications and progressing towards the most recent ones. The labels assigned to the nodes indicate the publication's name, total centrality degree, and global citation count (ISI times cited). To facilitate analysis, only nodes with a centrality degree greater than ten were included in the final network. **Figure 4 and 5** highlight the works of Peteraf (1993) representing USA as a major country accentuating in developing firm strategy, with a degree of centrality of 106 and the arrow directing USA. Hence, this also suggests that it is necessary for USA to reinforce the regulatory foundation for the competitive advantage and business strategy in the future. It is advisory that this trend not only emphasized by USA, but also France, India, Canada, Japan and other countries.

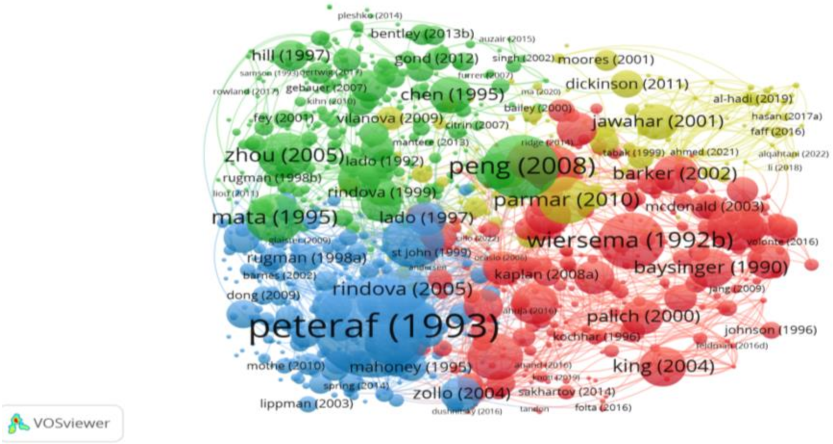

Figure 4. Publications' centrality.

Source: own research.

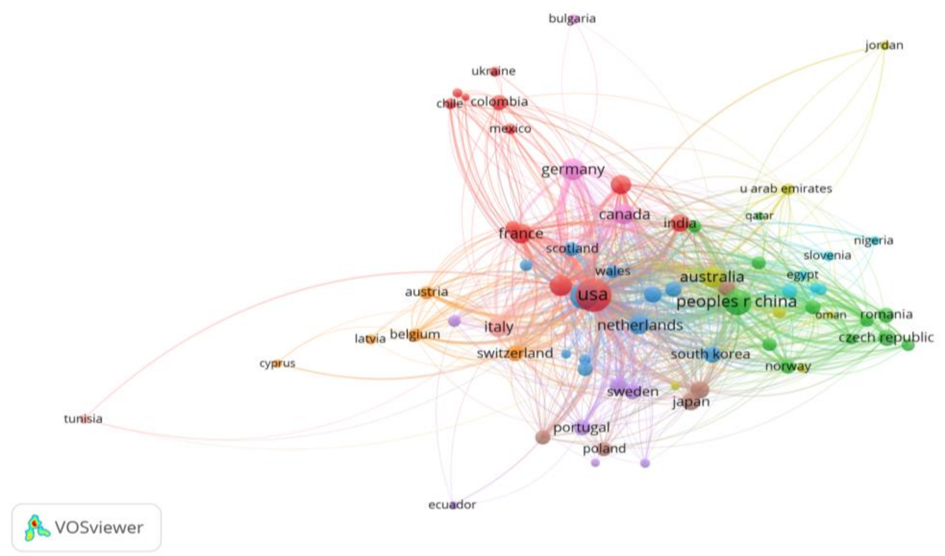

Figure 5. Publications' centrality.

Source: own research.

Keyword Network. **Figures 6–8** illustrate the strength of the connections between the most commonly used keywords in the sample articles. The magnitude of the connections between the nodes is represented by the width of the lines. Its structure yields five different groups: effects, task, university, rise appears grouped around the word "firm life cycle" (**Figure 6**). While 3 major repetitions were appeared around the word "firm strategy": methodology approach, diversification, approach (**Figure 7**), 2 main repetitions from network of keyword "firm life cycle; firm strategy" were found: corporate strategy, sustainability (**Figure 8**). The outcomes demonstrate the frequency, relevance, and level of interest among researchers concerning these terms. Additionally, they indicate how recently these terms have been utilized in the field.

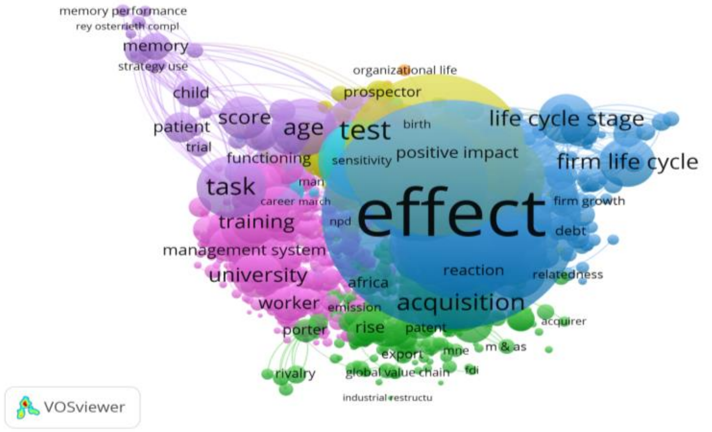

Figure 6. Network of keyword occurrences (keyword = firm life cycle).
Source: own research.

Figure 7. Network of keyword occurrences (keyword = firm strategy).
Source: own research.

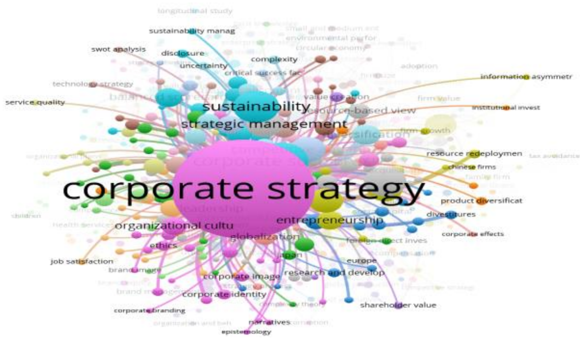

Figure 8. Network of keyword occurrences.
keyword = firm life cycle, firm life cycle.
Source: own research.

Analysis of high-level scientific research institutions. The degree of relativeness between research-based institutions and firm strategy research, firm's life cycle literature, the main research patterns of these institutions, and the joint effort of researchers are investigated in this part of the study. As can be seen in **Figure 9**, New York University, Harvard University, Oxford University, Edinburg University have collaborated on the research of firm strategy, while Pennsylvania University and Monash University have formed partnership relied on business strategic contracts.

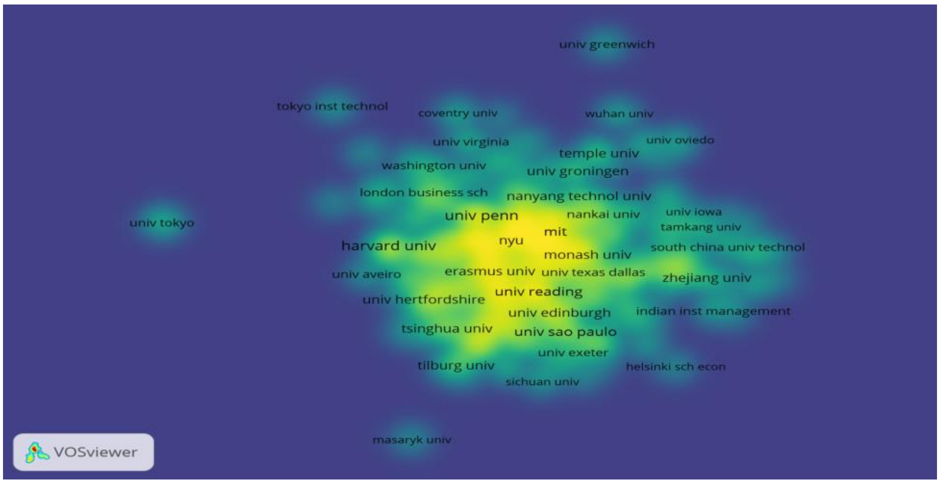

Figure 9. Centrality of the publications.

Source: own research.

4.2. Content analyzing

In this section, we redirect our focus towards the types of strategies that firms typically pursue within specific life cycles. We categorize our analysis into five sub-sections: Introduction stages and firm strategy; Growth stages—Mature stages and firm strategy; Mature stages and firm strategy; Decline stages and firm strategy; and All stages and firm strategy.

Table 2. Firm strategy types that the papers have presented in each stage.

No	Stage	Year	Journal	Title of the paper	Industry	Country	Firm strategy type
1	All stages (12)	2016	Organization Science	Venture Capital, CEOs' Sources of Power, and Innovation Novelty at Different Life Stages of a New Venture (Park and Tzabbar 2016)	Biotech companies	USA	Corporate strategy
2	All stages (12)	2014	The Journal of Risk Finance	Life cycle and performance among SMEs: Swedish empirical evidence (Yazdanfar and Öhman 2014)	6 industries	Swedish	Functional strategy
3	All stages (12)	2018	Social Sciences & Humanities	The Adaptability of Company's Strategy in Managing Its Life Cycle Stages (Felicia, Irawan, and Dewi 2018)	Manufacturing firms (15 years old) included: low phase-changing company and high phase-changing company.	Indonesia	Functional strategy
4	All stages (12)	2018	Management and Organization Review	How Does Firm Life Cycle Affect Board Structure? Evidence from China's Listed Privately Owned Enterprises (Y. Li and Zhang 2018)	13 industry - privately owned enterprises; from 2002 to 2014	China	Functional strategy
5	All stages (12)	2019	Advances in Economics, Business and Management Research	The Firm Life Cycle Dynamics of Tax Avoidance (Mangoting and Onggara 2019)	Basic industries and chemicals sectors - 56 companies with an 8-year research period	Indonesia	Functional strategy

Table 2. (*Continued*).

No	Stage	Year	Journal	Title of the paper	Industry	Country	Firm strategy type
6	All stages (12)	2020	Journal of Risk and Financial Management	When Does Earnings Management Matter? Evidence across the Corporate Life Cycle for Non-Financial Chinese Listed Companies (Hussain et al., 2020)	3250 non-financial Chinese from 2009 to 2018	China	Functional strategy
7	All stages (12)	2020	Review of Quantitative Finance and Accounting	At what life-cycle stage does the auditors' going concern report add value? (Bakarich, Liu, and Weintrop 2021)	GCAO frms	None	Functional strategy
8	All stages (12)	2020	International Journal of Innovation Management	Life cycle, competitive strategy, continuous innovation and firm performance (Haiyan et al., 2021)	562 continuous and 562 non-continuous innovation firms	China	Functional strategy
9	All stages (12)	2020	Business Strategy and the Environment - WILEY	How does a firm's life cycle influence the relationship between carbon performance and financial debt ? (Tascón, Castro, and Ferreras 2021)	Listed firms from the most important stock index (2005 to 2018)	16 European countries	Functional strategy
10	All stages (12)	2020	Sustainability	The Interplay between Working Capital Management and a Firm's Financial Performance across the Corporate Life Cycle (Wang, Akbar, and Akbar 2020)	Non-financial listed firms in12 industries 2005–2014	Pakistani	Functional strategy
11	All stages (12)	2021	Pacific-Basin Finance Journal	Profitability of moving-average technical analysis over the firm life cycle: Evidence from Taiwan (Chen et al., 2021)	Firm stocks (1992–2018)	Taiwan	Functional strategy
12	All stages (12)	2023	Cogent Economics & Finance	How does the corporate life cycle influence Vietnamese firm's corporate social responsibility? (Thu and Khuong 2023)	218 companies in 8 industries (2014 to 2018)	Vietnam	Functional strategy
13	Decline (5)	2013	European Business Review	Strategies for business turnaround and recovery: a review and synthesis (Schoenberg, Collier, and Bowman 2013)	Business turnarounds in previous recessionary environments in mid 1970s, early 1980s and early 1990s	None	Corporate strategy
14	Decline (5)	2015	Journal of Management Studies	A Temporal Approach to Retrenchment and Successful Turnaround in Declining Firms (Tangpong, Abebe, and Li 2015)	96 publicly traded firms	USA	Corporate strategy
15	Decline (5)	2020	Journal of Strategy and Management	Business model innovation as a turnaround strategy (Hosseinzadeh Shahri and Nematollahi Sarvestani 2020)	4 firms from Automotive, E-business platform, Telecommunication, Petrochemical industry	Iran	Corporate strategy
16	Decline (5)	2018	Journal of Change Management	Chief Executive Cognition, Turnaround Strategy and Turnaround Attempts of Declining Firms (Liang, Barker, and Schepker 2018)	Declining firms with one 3-digit SIC code (1987 and 2005)	USA	Functional strategy
17	Decline (5)	2020	Academy of Management Journal	Who will board a sinking ship? A firm-director interdependence perspective of mutual selection between declining firms and director candidates (Jiang et al., 2021)	Publicly listed declining firms (*ST firms)	China	Functional strategy
18	Growth & Mature (2)	2016	Future Business Journal	Reexamining the relationship between inventory management and firm performance: An organizational life cycle perspective (Elsayed and Wahba 2016)	84 firms in 18 industries	Egyptian	Functional strategy

Table 2. (*Continued*).

No	Stage	Year	Journal	Title of the paper	Industry	Country	Firm strategy type
19	Growth & Mature (2)	2019	Journal of Manufacturing Technology Management	Linking firms' life cycle, capabilities, and green innovation (Tariq et al., 2020)	425 firms with green process innovation performance	Thailand	Functional strategy
20	Growth (3)	2017	International Entrepreneurship and Management Journal	Is the impact of incubator's ability on incubation performance contingent on technologies and life cycle stages of startups?: evidence from Japan (Fukugawa 2018)	194 business incubators	Japan	Corporate strategy
21	Growth (3)	2019	Journal of Global Information Management	Which Kinds of Legitimacy is Important? A Case Study on the Corporate Life Cycle in an IT Company (Li et al., 2019)	496 IT firms	China	Corporate strategy
22	Growth (3)	2015	Innovation: Management and, Policy and Practice	Firm growth and innovation: Towards a typology of innovation a strategy (Eiriz, Faria, and Barbosa 2013)	High-tech organizations	11 European countries	Functional strategy
23	Introduction (2)	2018	Group and Organization Management	Does Establishing Sociopolitical Legitimacy Overcome Liabilities of Newness? A Longitudinal Analysis of Top Performers (Rutherford et al. 2018)	5000 new ventures	USA	Corporate strategy
24	Introduction (2)	2017	Organization Science	Beyond the Startup Stage: The Founding Team's Human Capital, New Venture's Stage of Life, Founder-CEO Duality, and Breakthrough Innovation (Tzabbar and Margolis 2017)	578 biotechnology companies - firms (1987 -	USA	Functional strategy
25	Introduction & Growth (1)	2007	The Accounting Review	Introducing the First Management Control Systems: Evidence from the Retail Sector (Sandino 2007)	Retail sector	USA	Strategic Business Unit (SBU)
26	Mature (2)	2017	Journal of Business Research	Dysfunctional competition & innovation strategy of new ventures as they mature (Naz et al., 2020)	288 new ventures	China	Corporate strategy
27	Mature (2)	2017	Journal of Contemporary Accounting & Economics	Corporate life cycle, organizational financial resources and corporate social responsibility (Hasan and Habib 2017)	25,327 firm-year observations	U.S (KLD database)	Functional strategy

Table 2 above illustrates the firm strategy types that the papers have presented in each stage. Appendix presents a summary of statistical information derived from twenty-seven studies that have investigated the correlation between the life cycles of firms and their performance (Bakarich et al., 2021; Chen et al., 2021; Elsayed and Wahba, 2016; Eiriz et al., 2013; Felicia et al., 2018; Fukugawa, 2018; Haiyan et al., 2021; Hussain et al., 2020; Hasan and Habib, 2017; Hosseinzadeh et al., 2020; Jiang et al., 2021; Li and Zhang, 2018; Liang et al., 2018; Li et al., 2019; Mangoting and Onggara, 2019; Naz et al., 2020Park and Tzabbar, 2016; Rutherford et al., 2018; Sandino, 2007; Schoenberg et al., 2013; Tangpong et al., 2015; Tariq et al., 2020; Tascón et al., 2021; Thu and Khuong, 2023; Tzabbar and Margolis, 2017; Wang et al., 2020; Yazdanfar and Öhman, 2014).

4.2.1. Introduction stages and firm strategy

Introduction stages and firm strategy. The research of Sandino (2007) conducted in US regarding retailing industry in 2007 indicated that the managerial administration changes frequently in the growth stage and diverse significantly, particularly in young enterprises. The early stage of a company experiences the strategies categorized by purposes, including Basic MCS, Cost MCS, Revenue MCS, and Risk MCS. The data used in the survey is relevant to the companies operating in their introduction phase, which is assessed by using database in retail sector. Although concentrating on a single industry and the possibilities of self-selection biases in collecting samples, this research had pointed out the relationship between the four MCS by purposes and the two strategies that are actually used involving low-cost and differentiation strategy. The paper of Rutherford et al. (2018) shows that Start-up companies that undertake more legitimating activities are more likely to become top performers as they progress beyond the initial “birth” stage. Moreover, paper of Tzabbar and Margolis (2017) shows startups, in the initial stage, should not invest much on the human resource (including skills, knowledge, and experience) of the founders, as having a founder-CEO in a start-up enhances the beneficial impact of the skills, knowledge, and experience possessed by the founding team during the early stages of the company’s development. Moreover, research on firm strategy has been concentrated in industries such as biotechnology (Tzabbar and Margolis 2017), retail (Sandino 2007), and non-financial sectors (Rutherford et al., 2018). A focus on areas such as financial technology (fintech), financial management, and other emerging industries could provide valuable insights into the strategies adopted by firms in their introduction stages. Additionally, investigating the impact of technological advancements and digital transformation on firm strategies during these stages could be an area of interest. Furthermore, exploring the role of environmental sustainability and corporate social responsibility (CSR) in shaping firm strategies during the introduction stages could contribute to a more comprehensive understanding of strategic decision-making processes.

4.2.2. Growth stages—Mature stages and firm strategy

Growth stages—Mature stages and firm strategy. This growth stage has been extensively studied, with a total of 5 papers focusing on it. These studies predominantly examine the implementation of functional strategy and corporate strategy within this stage, with the industries studied mainly operating in rapidly developing sectors such as IT and green processes. According to Elsayed and Wahba (2016) study, the inventory to sales ratio has adverse influence on corporate performance when they are growing and reaching maturity, but has a significantly favorable effect on performance in the growth stage and revival stage. Meanwhile, Tariq et al. (2020) found that mature firms are more closely linked to higher levels of innovation relevant to green process than firms in their growth phase, thereby identifying technological resources as a key and essential instrument to attain this level of capability. Firm strategies are categorized into four levels: corporate strategy, functional strategy, strategic business unit, and global strategy. Future research could explore the global strategy of companies during the growth stage or during the transition from growth to maturity. Understanding how firms formulate and implement global strategies to expand into new markets, manage international operations, and navigate cross-cultural challenges could provide valuable insights into their competitive positioning and long-term success. Additionally, investigating the role of global strategy in driving innovation, fostering strategic alliances, and mitigating risks in dynamic global markets could shed light on the factors influencing firm performance and resilience. By examining global strategy within the context of different stages of the corporate life cycle, researchers can uncover the strategic drivers and determinants of international success, offering practical implications for managers and policymakers in an increasingly interconnected world.

4.2.3. Mature stages and firm strategy

Mature stages and firm strategy. Hasan and Habib (2017) found that as firms reaching maturity, a positive effect is witnessed in the association with Corporate Social Responsibility (CSR). The correlation between a company's maturity level and its implementation of CSR practices is influenced by factors such as larger size, increased profitability, and the availability of slack resources. Nevertheless, as enterprises progress and amass additional resources, unproductive competition may hinder the firm's ability to maintain a competitive edge. Additionally, Cai et al. (2017) found that the correlation between a business's level of maturity and its level of engagement is positive in CSR initiatives are subject to various factors, such as greater organizational scale and enhanced financial performance, and the availability of slack resources. Furthermore, their research revealed that an innovative strategy has a favorable impact on a new venture's competitive advantage. However, unproductive competition plays a positive moderating role in this relationship during the early stages of the venture, and a negative moderating role as the venture reaches maturity. The mature stage of companies has not been extensively researched, particularly within the field of finance, presenting a promising avenue for future research. Exploring how firms navigate strategic challenges and opportunities during the mature stage, especially in the realm of financial management and investment decision-making, could yield valuable insights into sustainable growth and value creation. Research in this area could examine the effectiveness of financial strategies adopted by mature companies to optimize capital structure, manage cash flows, and allocate resources efficiently. Furthermore, investigating the impact of external factors such as economic cycles, regulatory changes, and technological disruptions on financial strategies in the mature stage could provide a deeper understanding of the dynamics shaping firm performance and resilience. By focusing on the mature stage within the context of finance, researchers can contribute to filling the existing knowledge gap and offer practical implications for corporate decision-makers, investors, and policymakers seeking to enhance financial stability and long-term competitiveness.

4.2.4. Decline stages and firm strategy

Decline stages and firm strategy. There are 5 research articles focusing on company strategies during this stage, covering various sectors such as publicly listed firms (Schoenberg et al., 2013; Tangpong et al., 2015), automotive, e-business platforms, telecommunication, and the petrochemical industry (Hosseinzadeh Shahri and Nematollahi Sarvestani, 2020). Schoenberg et al. (2013) noted that, during the period of decline, business organizations usually prioritize the adoption of turnaround strategies, which may involve reducing costs, divesting assets, concentrating on core operations, and planning for future growth. According to Tangpong et al. (2015), retrenchment policy is more likely to achieve turnaround success if it is launched during two-year period after decline. Meanwhile, all firms use a business model innovation approach to implement their turnaround strategies, albeit with different dimensions of the business model being assigned unfamiliar weights, which may vary depending on the industry to which they belong (Hosseinzadeh Shahri and Nematollahi Sarvestani 2020) . In the decline stage, the way top-level managers perceive a situation can assist in altering a pessimistic work environment by instilling positive thoughts and taking control. This positive attitude could prompt stakeholders to financially facilitate the turnaround attempts, ultimately enhanced implementation of turnaround tactics and an increased likelihood of recuperation. (Liang, Barker, and Schepker 2018). The strategies examined in these studies include corporate strategy and functional strategy. Future research could further explore companies operating in different sectors and how they implement global strategies or business unit strategies to facilitate their recovery. Investigating how companies in diverse industries navigate global competition and adapt their strategic approaches could provide valuable insights for companies seeking to rebound (Xia et al., 2022).

4.2.5. All stages and firm strategy

All stages and firm strategy. In all stages, the papers include firm life cycles and firm strategies, among twelve articles, there is only one paper related to the type of corporate strategy and the remaining are related to the type of functional strategy. The firm life cycle measurements come from Anthony and Ramesh (1992), DeAngelo and Franke (2016) and Dickinson (2011). To investigate whether the declining firms, the papers apply the following criteria. (Hofer 1980) showed that a major decline in performance while Hambrick and Schecter (1983) presented that for a decline, the mean pre-tax ROI during the initial two-year period of investigation must be less than 10%. According to Grinyer and Mckiernan (2016) and Weitzel and Jonsson (1989), for recovery, the next two-year period must have at least an ROI of 20%. In the paper of Lee et al. (2021a), they discover a swifter method to determine the corporate stages prompted them to apply machine learning into this measurement with the subsequent re-evaluation using the financial data. This research conducted in Korea used the financial information collected from 2007 to 2018, and the reserve of articles gathered from 2011 to 2018. Regarding firm life cycle measurements, this paper used the integrated model between Choi et al.'s model (comprises five stages), Kwon and Moon's method (including variables such as R&D and capital expenditures, market-to-book value), Dickinson's method (based on Operating Cash flows, Investing Cash flows, Financing Cash flows), De Angelo's method (based on Retained Earnings to Total Assets, Retained Earnings to Total Equity). By analyzing the mentioned variables, the author deduced the business's life cycle. For example, Growth stage would have Sales Growth (SG), Changes in Capital Expenditures (CE), Market-to-Book Ratio (M/B), Change in the Number of Employees (EXP) at a very high level, and Retained Earnings Ratio (SE) at the opposite end. The medium level of all the variables would be an indicator for Phase 3 (Maturity). And the fifth stage (Decline) has the opposite trend compared to Stage 1. Although many graphs in academic materials had already depicted the relationship between cash flow structure and business cycle, Dickinson (2011) desire to investigate more about this correlation due to the lack of empirical evidence to support the assertions included in the textbooks. Utilizing the behaviors of three categorizes that are operating, investing, financing cash flows and two common life cycle's proxies (Size and Age) and other alternative life cycle's proxies lay the foundation for the accurate model used in the paper. The author then investigated the future profitability according to the phases of the company, which indicates that company in its mature phase can earn positive future excess returns.

It can be observed that there is still no standardized measure to assess the stage of a company, and papers studying company strategies in each stage (introduction, growth, mature, decline) mainly focus on corporate strategy and functional strategy. This creates opportunities for future research to establish a unified method for measuring the stages of companies, as well as exploring global strategy and business-unit strategy in more depth. By developing a standardized approach to identify company stages and examining various strategic dimensions, future studies can provide a more comprehensive understanding of the strategic dynamics and challenges faced by companies throughout their life cycles. Similarly, future research could expand the study into various areas within the field of finance. This expansion could involve examining how financial strategies evolve across different stages of a company's life cycle, exploring the role of financial management practices in driving firm performance and resilience, and investigating the impact of financial market conditions on strategic decision-making (Li et al., 2018). Additionally, research could delve into the intersection of finance and other disciplines such as marketing, operations, and human resources, to provide a more holistic understanding of how financial strategies interact with other functional areas within organizations. By broadening the scope of research in finance, scholars can contribute to advancing knowledge and informing practical applications in strategic financial management.

5. Discussion

In this section, we will discuss the research findings to address the two initial research questions posed.

RQ1. What is the historical progression of the academic research pertaining to the correlation between the life cycles of firms and their corresponding strategic approaches?

A bibliometric analysis was carried out in order to address the research question 1. The magnitude of the vertex in the resultant graph corresponds to the quantity of citations received by the respective being published. This is clarified in the works Aragón-Correa and Sharma (2003), Hobday (2000), Jawahar and McLaughlin (2001), Lazonick and O'Sullivan (2000), Peng et al. (2008), Peteraf (1993). Moreover, the works of Peteraf (1993) representing USA as a major country accentuating in developing firm strategy, with a degree of centrality of 106 and the arrow directing USA. Hence, this also suggests that it is necessary for USA to reinforce the regulatory foundation for the competitive advantage and business strategy in the future. It is advisory that this trend not only emphasized by USA, but also France, India, Canada, Japan and other countries (**Figure 4**). The study also identified five clusters around the term "firm life cycle" (**Figure 5**) and three major repetitions around the term "firm strategy" (**Figure 6**). Two main repetitions from the network of keywords "firm life cycle; firm strategy" was found: corporate strategy and sustainability (**Figure 7**). The study also found that New York University, Harvard University, Reading University, and Edinburgh University collaborated on research related to firm strategy, while Pennsylvania University and Monash University collaborated on business strategic contracts. The study suggests a high level of interest and collaboration among researchers in the field of firm strategy and firm life cycle (**Figure 8**).

RQ2. What pertains to the primary topics and concerns related to the stages and strategies of firms as identified in academic work?

There is total 27 articles relevant to firm life cycles and firm strategy, and they are categorized into four different corporate strategies according to which stage they are in. More specifically, the majority of the mentioned paper mention about the functional strategy. Chen et al. (2021) indicated that the R&D function, such as requirements for newness and operating profitability assessment, accentuated in the introduction phase of a company exposure the companies to more underlying uncertainty; gradually, when the company reaching growth phase, they are less likely to encounter uncertainty, and focus more on managing sales department to boost the revenue and financial instruments to effectively distribute the cashflow. At the growth stage, the human capital of board of directors has stronger positive effect on the firm performance relative to the start-ups (Tzabbar and Margolis 2017). The mature companies beneficially involve in CSR activities which are decided by the marketing faculty, thereby increasing the corporate size and the profitability (Hasan and Habib 2017) . Regarding the final decline and shake-out phase, Thu and Khuong (2023) claimed that CSR disclosure and CSR investment activities are no longer focused, and more effort should be allocated into infusing the optimism and controllability into all the levels in the company to captivate the stakeholders and investors (Liang, Barker, and Schepker 2018). Higher responsibilities are burdened by the HRM department, in the eventual firm’s life cycle, as they are obliged to obtain the director candidates with high managing capabilities to help the firms make a turnover (Jiang et al., 2021). Corporate strategy is mentioned in eight literatures with the results as following. The legitimate activities (Rutherford et al., 2018) and good relationship with local government and gaining regulative legitimacy (Li et al., 2019) should be invested and maintained by companies in the birth stage so as to determine the proper approach for the entire developing strategy and reducing the expenses of stocking and managing a number of documents, and according to the paper by Chen et al. (2021) which have been mentioned in the functional strategy, start-ups usually set goals for newness at first which equates with the differentiation strategy. When the companies reaching the maturity, they are likely to exposure more dysfunctional competition acts and overwhelming resources allocation, which require the innovative activities (Cai et al., 2017), and the in-depth understanding of normative and cognitive legitimacy (Li et al., 2019). The third category is Strategic Business Unit which is mentioned in one paper that demonstrates the categories of initial Management Control System (MCS), including Basic MCS, Cost MCS, Revenue MCS, Risk MCS. Individual control systems are associated with the Initial MCS in the early stage of the enterprises. The low-cost strategy followers would use the Cost MCS and Risk MCS at higher level compared to the remaining initial MCS; however, firms pursuing a differentiation strategy tend to accentuate more emphasis on Revenue MCS than Cost MCS. None of the 27 articles mentions about the global strategy, which should be discussed in further research. As we are moving into the globalization world, the global strategies are becoming the prerequisite for companies desiring to prompt their expansion over the world rapidly. Therefore, the research about which global strategies should be applied in each stage of the corporate life cycle is crucial and imperative.

6. Conclusion

This paper has reviewed the existing literature regarding firm strategy and firm life cycle. In order to figure out the consistence between the strategy used each corporate stage, we propose two research questions, with the first one wondering the evolutionary path of the research over the relationship between a company's life cycle and its strategy, and the second one being the main corollaries in the scientific literature? The first question is going to examine evolutionary changes regarding that relationship. This can provide us with thorough understanding about how firms adapt their tactics as they progress through sequent stages of the life cycle. Thanks to the history of adaptive behaviors of business, the new market entrants and existing companies can rely on this empirical evidence to assess their current strategy and minimize the expense caused by trial and error. Moreover, the result of this study lays the foundation for further research to concentrate on analyzing some aspects of business strategy that have not been sufficiently investigated. Our final result summarizes the correspondent business strategy in each stage of the firm life cycle. In the introduction phase, a company use strategies classified by purposes, which is called Initial Management Control System (MCS) including Basic MCS, Cost MCS, Revenue MCS, and Risk MCS. The majority of emphasis is put on activities relating to legitimacy, innovation and human capital in this early phase. When a company is growing and reaching maturity, a high inventory to sales ratio can hurt effectiveness, but in the growth stage and revival stage, it can actually help. Another study found that mature companies tend to be better at green process innovation than companies in the growth stage, and that technological resources play a crucial part in achieving high levels of green process innovation performance. When reaching maturity, the firm would involve more into CSR activities, as companies have established themselves in the market and have a stable customer base, which allows them to focus on non-financial objectives such as CSR. Another reason is that mature companies have typically built up a strong reputation, and engaging in CSR activities can help to maintain and enhance this reputation. Firms tend to use cost efficiencies, asset retrenchment, firm's core activities to recover in the decline stage. This is because these strategies help stabilize their financial situation, build momentum and urgency, and signal to stakeholders that they are committed to turning things around, all of which can increase the likelihood of successful turnaround. As depicted in Section 5, the literature on firm life cycle and firm strategy under each life cycle stage is hindered by a lack of conceptual consensus. More specifically, several arguments support the theoretical and practical significance of conducting a review on sustainable innovation. The results are inconclusive regarding the magnitude and direction of the reported relationships.

6.1. Theoretical contribution

The theory regarding firm life cycles still lacks consensus regarding the number of stages and the methods for identifying the stage at which a company resides. Therefore, the findings from the systematic literature review presented in this paper contribute to the theory of firm life cycles as follows:

Table 3 summarizes the varying perspectives on firm life cycles presented in the literature, providing insights into the number of stages identified by different scholars and the measurements used to characterize each stage.

Table 3. Firm life cycle theory's contribution.

Reference	Number of stages	Firm life cycles	Measurement
Anthony & Ramesh (1992)	3 stages	Growth Mature Decline	Dividend Sales Growth
DeAngelo & Franke (2016)	3 stages	Young Mature Old	Retained earnings/Total assets Retained earnings/Total equity Firm age
Dickinson (2011)	5 stages	Introduction Growth Mature Shakeout Decline	Cash flows from operations Cash flows from investment Cash flows from financing

The theory of company strategy only addresses corporate strategy, strategic business units, global strategy, and functional strategy in each stage, but there has been no research on green innovation strategy of companies, specifically how companies will apply this green innovation strategy in each stage of the company.

6.2. Practical implication

This study exerts some influence on how managers, can effectively apply the business strategy into each stage of corporate life cycle. In the early stage, managers should identify the main objective of the business and adopt four Initial MCS, as companies in this phase focus on developing and introducing their products or services to the market and are typically small and resource-constrained. The purpose of Initial MCS is to provide a framework for managing the company's limited resources, while also promoting innovation and building human capital. In the growth and maturity stage, inventory to sales ratio should be carefully considered as it could have adverse effect on the firm's performance. Therefore, the company should invest into the technological capabilities to reduce the inventory so as to reduce the holding and setup costs. Besides that, CSR activities should also be promoted because it helps to maintain the business's reputation. In the final stage, managers should adopt these strategies, such as cost efficiencies which involve reducing overhead costs, renegotiating contracts with suppliers, and cutting back on non-essential expenses to increase profitability; asset retrenchment which involves selling off non-core assets or divesting unprofitable business units to raise capital and focus on the company's core activities. Due to a scarcity of research on the appropriate global strategy for various life cycle stages, there exists an opportunity for additional articles to thoroughly explore this relationship and assess the success trajectories of multinational enterprises throughout their life cycles. The number of articles collected are still small, which means this is also a new topic needed broad and in-depth research, especially in the international situation. Another approach is figuring out how the decision-making regarding the firm global or transnational strategy can affect the business performance in different stages. Subsequent studies could focus on clarifying the measurement of firm life cycle and investigating the global strategy as well as the green innovation strategy of companies in each stage. In addition to research in non-financial industries, the following studies could also elucidate this relationship in the banking, financial, and insurance sectors.

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